

Name _____ Period _____ Date _____

Solving Quadratic Equations By Factoring and Using the Zero Product Property

$$\begin{array}{l} x^2 - 5x - 24 = 0 \\ (x - 8)(x + 3) = 0 \\ (x - 8) = 0 \quad (x + 3) = 0 \\ x = 8 \quad \quad \quad x = -3 \end{array}$$

Factor

Zero Product Property

Solve for x:

1) $x^2 + 7x + 10 = 0$

2) $x^2 - 8x + 12 = 0$

3) $x^2 - 49 = 0$

4) $x^2 + 5x - 6 = 0$

5) $x^2 - 7x - 18 = 0$

6) $x^2 - 5x = 0$

7) $2x^2 + 5x - 3 = 0$

8) $3x^2 - 8x + 4 = 0$

9) $2x^2 - 3x - 5 = 0$

10) $3x^2 + x - 10 = 0$

$$11) 4x^2 - 25 = 0$$

$$12) 2x^2 + 7x = 0$$

$$13) 5x^2 + 29x + 20 = 0$$

$$14) 6x^2 - 19x + 15 = 0$$

Possible solutions (not in any specific order) plus 2 additional possibilities. Each bracket contains the two values for x.

$$\left\{\frac{3}{5}, -1\right\} \{2, 6\} \left\{\frac{3}{2}, \frac{5}{3}\right\} \{-2, -5\} \left\{0, -\frac{7}{2}\right\} \{-6, 1\} \left\{-\frac{4}{5}, -5\right\} \{0, 5\}$$

$$\left\{\frac{5}{2}, -\frac{5}{2}\right\} \left\{\frac{5}{2}, -1\right\} \left\{\frac{5}{3}, -2\right\} \{7, -7\} \left\{\frac{3}{2}, \frac{5}{2}\right\} \left\{\frac{2}{3}, 2\right\} \left\{\frac{1}{2}, -3\right\} \{-2, 9\}$$